



The MORNING of the MAGICIANS

by Louis Pauwels and Jacques Bergier

Introduction by Charles Berlitz

Translated from the French by Rollo Myers

*To the fine soul, to the warm heart of Gustave Bouju,
a worker, a real father to me. In memoriam.*

L.P.

Scarborough House/Publishers
Chelsea, MI 48118

FIRST SCARBOROUGH HOUSE TRADE PAPERBACK 1991

The Morning of the Magicians was originally published in hardcover by
Stein and Day/Publishers.

First published in France under the title *Le Matin des Magiciens*
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The Morning of the Magicians was published in England in 1963 as *The
Dawn of Magic*.

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Printed in the United States of America

ISBN 0-8128-8532-5

LC No. 91-13653

PREFACE

Physically I am a clumsy person and I deplore the fact. I think I would be a happier man if I had worker's hands – hands capable of making useful things, of plunging into the depths of nature to tap sources of goodness and peace. My adopted father (I always refer to him as my father because it was he who brought me up) was a journeyman tailor. He was great-hearted and possessed a truly questing mind. He used to say, with a smile, that betrayal by the intellectuals began with the first artist who depicted a winged angel – it is by our *hands* that we attain heaven!

In spite of my lack of manual dexterity I did once manage to bind a book. I was sixteen at the time, a student at a vocational class in a suburb of Juvisy. On Saturday afternoons we had the choice between wood and metal work, modelling, and book binding. Poetry was then my favourite reading, Rimbaud my favourite poet. And yet – after an inner struggle, I admit – I abandoned the idea of binding his *Une Saison en Enfer*. My father possessed some thirty books ranged in a narrow cupboard in his workroom along with bobbins, chalk, shoulder pads and patterns. There were also, in this cupboard, thousands of notes which he had jotted down in his scholar's hand at a corner of his bench during innumerable nights working at his trade. Among these books I had read Flammarion's *Le Monde avant la Création de l'Homme* (The World before the Creation of Man) and was just discovering Walter Rathenau's *Où va la Monde?* (Where is the World Going?) I set out to bind Rathenau's book, not without difficulty. Rathenau was among the first victims of the Nazis, and the year was 1936. So, each Saturday, I struggled over my task in the little workshop of the vocational school, and on the first of May I presented my father with the finished book, and a spray of lilies of the valley out of regard for him and the working class.

My father had underlined in red pencil in this book a passage I still remember:

'Even the most troubled epoch is worthy of respect, because it is the work not just of a few people but of humanity; and thus it is the work of creative nature – which is often cruel but never absurd. If this epoch in which we are living is a cruel one it is more than ever our duty to love it, to penetrate it with our love till we have removed the heavy weight of matter screening the light that shines on the farther side.'

'Even the most troubled epoch . . .'

My father died in 1948 without ever having ceased to believe in creative nature, without ever having ceased to love and to penetrate with his love the sad world in which he lived, without ever having lost the hope of seeing the light behind the heavy weight of matter.

He belonged to the generation of romantic socialists who had as their idols Victor Hugo, Romain Rolland, Jean Jaurès, wore wide-brimmed hats, and kept a little blue flower in the folds of the red flag. Just at the edge of pure mysticism on the one hand and the cult of social action on the other, my father (he worked fourteen hours a day at his bench: and yet we lived in near misery) succeeded in reconciling an ardent trade union activity with a search for an inner liberation. He had introduced into the humble actions demanded by his work a sort of method of concentration and purification of the mind on which he left hundreds of pages of notes. Stitching button holes or pressing cloth, his face yet bore a radiant expression. Every Thursday (a school holiday in France) and Sunday my friends would gather round his workbench to listen to him and to savour his strength, and nearly all of them felt their life changed in some way.

Full of confidence in progress and science, believing in the coming to power of the proletariat, he had constructed a powerful philosophy for himself. The reading of Flammarión's study of pre-history had been a sort of revelation for him. Guided only by feeling he went on to read books on palaeontology, astronomy and physics. Although with little formal education he yet managed to penetrate to the heart of these subjects. When he talked it was as if it might have been Teilhard de Chardin (whom we hadn't even heard of in those days):

"The experience of our century is going to be something considerably more than the birth of Buddhism! It is no longer a question of endowing such and such a god with human faculties. The religious power of the Earth will undergo in us a final crisis: that of its own discovery. We are beginning to understand, and for ever, that the only acceptable religion for man is the one that will teach him first of all to recognize, love and passionately serve this universe of which he is the most important element."*

My father believed that the evolutionary process is not to be confused with selection, which is a purely superficial process, but that it is all-inclusive and ascendant, augmenting the 'psychic density' of our planet, preparing it to make contact with the intelligences of other worlds, to draw nearer to the very soul of the Cosmos. For him the human species is not something completed. By virtue of the spread of communal living and the slow creation of a universal psyche, it is progressing toward a state of super-consciousness. He used to say that man is not yet perfect and saved, but that the laws of condensation of creative energy permit us to nourish, at the cosmic level, a tremendous hope. And he never lost sight of this hope. It was from that viewpoint that he judged, serenely and with a religious dynamism, the affairs of this world, seeking far and high an immediate and truly effective optimism and courage. In 1948 the war was over, and new battles - atomic ones,

* 'Teilhard de Chardin tel que je l'ai connu' (Teilhard de Chardin as I knew him), by G. Magloire, in *Synthèse*, November 1957.

this time - were threatening. Nevertheless he considered the disquieting and painful times to be no more than the negative of a magnificent image. It was as if he were in communication with the spiritual destiny of the Earth, and for the troubled epoch in which he ended his life of labour, and despite numerous personal setbacks, he felt nothing but confidence and love.

He died in my arms during the night of 31 December, and before dying he said to me:

'One must not count too much on God, but perhaps God counts on us. . . .'

How did things stand with me at that moment? I was twenty-eight years old. I was twenty in 1940 at the time of France's collapse. I belonged to a critical generation which had seen a world fall apart, which was sundered from the past and mistrustful of the future. I was certainly far from believing that our shattered world was worthy of respect and that it was my duty to penetrate it with love. Rather it seemed to me that a clear head led to refusal to participate in a game where everyone was cheating.

During the war I sought refuge in Hinduism - that was my way of resisting, and I lived in absolute Resistance.

Don't look for help in a study of history, nor among people - they'll let you down every time. Look for it in yourself. Live in this world without being of it. One of my favourite images was the Bhagavad Gita diving bird: 'down, skim the water, and up - without having even wet its wings'. Act in such a way that events too powerful to be modified by us will at least not affect us. I existed in a rarefied air, sitting - lotus fashion - on a cloud borne from the Orient. . . . When I had gone to sleep my father would quietly thumb through my bedside reading, trying to understand the source of my strange ideas which yawned like a gulf between us.

Some time later, just after the Liberation, I found a new master to model myself on and to live for. I became a follower of Gurdjieff. I worked hard to separate myself from all emotion, sentiment, impulse, hoping to find, beyond them, a state of - how shall I say it? - of immobility and of permanence, a silent presence, anonymous, transcendent, which would console me for all that I lacked and for the world's absurdity. I thought of my father with pity. I possessed the secrets of controlling the mind; all knowledge was mine. In fact, I possessed nothing except the illusion of possessing, and an overwhelming contempt for those who did not share my illusion.

My father despaired of me. I despaired of myself. I steeped myself to the very bone in a position of refusal. I was reading René Guénon, and believed it was our disgrace to be living in a completely perverted world bent on the Apocalypse. The words spoken by Cortes to the Spanish Chamber of Deputies in 1849 became mine: 'The cause of all your mistakes, gentlemen, is your unawareness of the direction being taken by civilization and the world. You believe that civilization and the world progress. No, they go

backwards! For me our modern age was the dark ages. I spent my time listing the crimes committed by the modern mind against Mind. Since the twelfth century the Western World, having abandoned the Principals, has been rushing to disaster. To have any hope, however small, was a betrayal. I had energy only for refusal, for the breaking of contact. In this stricken world where priests, thinkers, politicians, sociologists and manipulators of all kinds seemed to me like dung-eaters the only dignified behaviour lay in traditional studies and unconditional resistance to the spirit of the age.

Looked at from such a point of view, evidently, my father appeared the veriest simpleton. His sense of belonging, of affection, of vision irritated me as something unbelievably absurd. The hope he placed in a growing communal life inspired by infinitely more than purely political motives incited my deepest contempt. My standards were those of the ancient theocracies.

Einstein founded a 'committee of despair' of atomic scientists; the menace of total war bore down on a humanity divided into two blocs. Yet my father died with his faith in the future intact; I no longer understood him. I do not intend to raise the problems of the existence of social classes in this book - it isn't the place. But I know very well the reality of these problems: they crucified the man who loved me.

I never knew my real father. He belonged to the old bourgeoisie of Ghent. My mother, like my second father, came from the working class. It was the inheritance from my Flemish ancestors, sensualists, artists, layabouts, and proud, that separated me from a generous, dynamic way of thinking, forcing me into myself and into a misapprehension of the virtue of participation. The barrier between my second father and me had already existed a long time. He who had never wished other child than me (who came of another's blood), solicitous for me, sacrificed much so that I should become an intellectual. Having given everything, he fell into the trap of thinking that we were kindred spirits. He saw in me a beacon, someone capable of lighting a way for others, of giving them courage and hope - of showing them, as he used to say, the light within us. But I knew of no sort of light - except some sort of dark lamp, perhaps - in me or in humanity. I was simply one intellectual among a multitude of intellectuals.

I pushed the conviction of being an outsider and of the need for revolt - ideas reflected in the literary reviews around 1947 when they wrote of 'metaphysical disquiet' - to their extreme limits. Such ideas were the difficult heritage of my generation. How, then, to be a beacon in such circumstances? This typical Victor Hugo thought only caused me to smile sneeringly. My father reproached me with having sold the pass, gone over to the side of the mandarins and those proud of their very powerlessness.

The atom bomb, for me the sign of the end of everything, was for him herald of a new dawn: matter was spiritualizing itself and man was discovering in his surrounding and within himself completely unsuspected forces. The bourgeois sentiment, which sees

this world as nothing but a comfortable habitation, was to be swept away in the gale of a new spirit - the spirit of the 'workers of the Earth' for whom the world is a going machine, an organism in process of becoming, a unity to be achieved, a Truth to be realized. For him humanity is only at the beginning of its evolution. It has received only its primary instruction on the role assigned to it by the Intelligence of the Universe. We are only now beginning to understand the meaning of the phrase 'love of the world'.

The human adventure had a direction, for my father. He judged events as they moved or not in this direction. History made sense: it was leading to some kind of ultra-human being and promised a super-consciousness. But this cosmic philosophy did not isolate him from his century. He was a 'leftist' in his day-to-day living. This irritated me; particularly as I did not then understand that he put more spirituality in his progressiveness than I of progressiveness in my spirituality.

I was suffocating within the closed system of my thinking; I sometimes felt myself to be no more than a little, arid intellectual and envied him his large free-ranging thoughts. Evenings, sitting by his bench, I used to contradict him, provoke him, yet hoping inwardly that he would manage to confound and change me. But, tired, he would lose his temper with me and with a destiny which had given him such splendid conceptions without giving him the means to pass them on to this child of another, mutinous, blood. We would quit each other in anger and sad, I to my meditations and my literature of despair, he back to his work under the raw electric light that yellowed his hair. From my little bedroom I could hear his breathing, his mutterings. Then suddenly, between his teeth he would begin to whistle quietly the opening bars of Beethoven's 'Hymn to Joy' - saying to me in my little bedroom that love will always find its way back. Each evening, round about the hour when we used to have those arguments, I think of him and I hear again those mutters which invariably terminated in song, in that sublime hymn.

He has been dead twelve years. If I had understood then as I understand now I would have managed my intelligence and my heart more skilfully. Then, I was an incessant seeker. Now I have rallied to him after many often sterile and dangerous journeys. I would have been able, much sooner, to conciliate the attraction subjectivity has for me with an affection for the world in all its movement. I would have been able to throw up - and perhaps with greater success in the vigour of my youth - a bridge between mysticism and the modern mind. I would have been able to feel myself at once, religious and yet part of the great drive of history. Earlier, much earlier, I would have acquired faith, hope, and charity.

This book sums up five years of questing, through all the regions of consciousness, to the frontiers of science and tradition. I flung myself into this enterprise - and without adequate equipment - because I could no longer deny this world of ours and its future, to which I so clearly belong.

Yet, every extremity illuminates. I should have found a means of communication with my epoch more quickly, yet it may be that in approaching things in my own way I did not altogether waste my time. Men get not what they merit but what they resemble. I have always been seeking for, as Rimbaud expressed it, the 'Truth in a soul and a body' I have not found it. In the pursuit of this Truth I lost sight of numerous small truths which would have made of me, certainly not the superman I yearned to be, but at least a better and more integrated person than I am. However, I did learn some things about the fundamental behaviour of the mind, about the various possible states of consciousness, about memory and intuition – some precious things I would not have otherwise learnt and which one day may help me to comprehend those things that are grandiose, essentially revolutionary, in the modern mind at its peak: its questionings on the nature of consciousness and the urgent need for a sort of transmutation of the intelligence.

When I came out of my Yogi's retreat to take a look at the modern world – I knew of its existence, of course, but did not understand the first thing about it – I was immediately struck by its air of the marvellous. My backward-looking preoccupations, fed on pride and hate, had at least this useful result: I no longer saw this world from its bad side, from the point of view of a 'beat-up' nineteenth-century rationalism, of a demagogic radicalism. They had also stopped me from simply accepting the world just because it was there, the place where I happened to live, in that semi-conscious way most people accept it. My viewpoint refreshed by the long visit I had made outside the frontiers of my period, I saw this world to be as rich in a real fantasy as I had supposed the traditional world to be. Better still, my fresh way of looking at the modern world reacted back on and deepened my understanding of the ancient mind. Old and new, I saw both from a fresh angle.

I met Jacques Bergier just about the time I was finishing my book on Gurdjieff's little group. Our meeting (something more than chance I have always thought) was to prove of great consequence. I had just devoted two years to a study of an esoteric school and my experiences in it. But new experiences were beginning for me and this is what I explained to readers of that book on taking my leave of them. With the story of a certain method of trapping monkeys in mind (a handful of nuts in a narrow-mouthed gourd attached to a tree, the monkey slides in his paw, balls it into a fist around the nuts, and so cannot withdraw his paw, and is trapped) I wrote:

'Examine the bait by all means, test it with your hand, then discreetly disengage. Curiosity satisfied, return your attention to the world, resume your liberty, your lucidity, your place on the route leading into our world of Man. The important thing is to discover the extent to which the rhythms of the so-called traditional mode of thinking merge with the movements of contemporary thinking. At their present farthest limits physics, biology, mathematics touch on certain traditional concepts: certain aspects of esoterism, visions

of the Cosmos, of the relation between energy and matter. Modern science, once freed from conformism, is seen to have ideas to exchange with the magicians, alchemists and wonder-workers of antiquity. A revolution is taking place before our eyes – the unexpected remarriage of reason, at the summit of its victories, and intuition. For the really attentive observer the problems facing contemporary intelligence are no longer problems of progress. The concept of progress has been dead for some years now. Today it is a question of a change of state, of a transmutation. From this point of view those concerned with the domain of the interior life and its realities are in step with the pioneering savants who are preparing the birth of a world that will have nothing in common with our present world of laborious transition in which we have to live for just a little while longer.

– And that is the precise argument we shall develop in this present book. Before launching into the undertaking I told myself that as a preliminary to understanding the present, one must be capable of projecting one's intelligence far into the past and far into the future. Formerly I had felt a dislike for those described as 'moderns', but I had disliked them for the wrong reasons. They are to be condemned because their minds are occupied with so small a portion of the time-scale. Scarcely have they arrived on the scene than they are anachronisms. Only a contemporary of the future can truly be of the present. Even the distant past may be conceived of as an undertow tending toward the future. Thus interrogating the present from this point of view I received some strange but promising replies.

The American writer, James Blish, wrote that Einstein's glory was to have swallowed Newton alive and kicking. An admirable formula! A preliminary to any raising of our sights toward a higher vision of life is that our thinking should have absorbed – alive and kicking – the truths of the previous level. This is the one certainty that has emerged from my studies. Does this sound banal? But when one has been living with methods of thinking that claim to be on the very peaks of human endeavour, such as René Guénon's wisdom and the Gurdjieff system with their contempt for the greater part of social and scientific reality, this new way of looking at things changes the intentions of the mind and its needs. 'Lower things', said Plato, 'will be found again in higher things – though in another form.' I am convinced that any advance in philosophy which does not *vitaly* include in itself the realities of the level it claims to have superseded, is an imposture.

So I passed a long exploratory period in the domain of physics, of anthropology, mathematics, biology before making any attempt to fashion an idea of Man, his nature, his force, his destiny. Formerly I sought to comprehend the 'totality of the concept Man' and was contemptuous of science. I suspected the mind's ability to scale the highest summits. And yet, what did I know of its advances in the field of science? Had it not there manifested its power in certain ways that I might be inclined to accept? And so,

I reflected, the need is to surmount the apparent contradiction between the material and the spiritual. But was the scientific approach the way to achieve this? The least I could do was to investigate the possibility – a more reasonable attitude after all, for a twentieth-century man than undertaking a bare-foot pilgrimage across India! The territory to be explored lay immediately around me.

It was my simple duty to discover whether scientific thinking at its extreme limit resulted in a revision of the idea Man. I further decided that any conclusions I might henceforth come to about the possibilities of intelligence and the significance of the human adventure were to be retained only in so far as they did not run counter to the overall movement of modern consciousness.

I discovered an echo of my attitude in Oppenheimer's reflection that nowadays our poets, historians, and philosophers are actually proud of their ignorance of anything to do with the sciences; our philosophy – in so far as we still have one – is anachronistic, completely out of step with the times in which we live.

Now, for one whose intellectual muscles are in good condition it is no more difficult to attain to the attitude that has inspired nuclear physics than to appreciate Marxist economics or Thomism, no more difficult to grasp the theory of cybernetics than to analyse the causes of the Chinese revolution or the nature of Mallarmé's poetics. Our mandarins refuse to make the effort not because effort as such intimidates them but because they prefer their present modes of thinking, their present values.

As Oppenheimer suggested, a more subtle understanding of the nature of human knowledge and of Man's relations with the Universe is necessary and has been necessary for some time now.

So I commenced my ransacking of the treasures of science and modern technique, inexpertly, certainly; with an ingenuousness and a sense of wonder perhaps dangerous but yet productive of illuminating comparisons, correlations, and attunements. In this way I rediscovered some convictions concerning Man's infinite grandeur that I had held when I was immersed in esoterism and mysticism. But I found them wearing a new look. This time, these convictions had absorbed – alive and kicking – the style and drive of a contemporary intelligence, an intelligence bent on the study of realities. They were no longer backward-looking; they smoothed out antagonisms instead of exciting them. Erstwhile massive antagonisms – the material *versus* the spiritual, individual *versus* collective life – fused as under a tremendous heat. So conceived they were no longer expressions of a choice (that is to say, *of a rupture*) but of a becoming, an overtaking, of a renewing, so to speak, of existence.

The apparent incoherence of bees in flight, the dances executed by them, are, so it is thought, precise mathematical figures and constitute a language. I would like to write a novel wherein all the experiences of a life, the fleeting ones and the significant ones, chance

ones and inevitable ones, would equally compose precise figures – would in fact disclose themselves for what they may well be: a subtle discourse addressed to the soul to help it accomplish itself: a discourse of which the soul comprehends, in its entire life, only a few disjointed phrases.

There are moments when it seems that I comprehend the inner meaning of the human ballet surrounding me, that someone is speaking to me by means of this ceaseless movement of people approaching, people pausing for a second, and then moving away. And then I lose the thread, as who does not, until the next equally fleeting moment of illumination.

At the time I left the Gurdjieff circle I had a very great friend in André Breton. Through him I met René Alleau, the historian of alchemy. One day I was looking for a scientific journalist to contribute to a current-events series. Alleau introduced me to Bergier. (It was bread-and-butter work, and in any event science, popularized or not, interested me little.) This chance meeting was to shape my life for many years. Under its influence I rearranged and orientated the various intellectual and spiritual experiences which I had exposed myself to – from Vivekananda to Guénon, to Gurdjieff, to Breton – and found myself at the point where I had started: my father!

Though dissimilar in many ways Bergier and I worked closely and happily together during five years of study and speculation, arriving at a point of view which I believe is novel and rich in its possibilities. This was how the surrealists worked thirty years ago. But unlike them we were exploring not the regions of sleep and the subconscious but their very opposites: the regions of ultra-consciousness and the 'awakened state'. We call our point of view *fantastic realism*. It has nothing to do with the bizarre, the exotic, the merely picturesque. There was no attempt on our part to escape the times in which we live. We were not interested in the 'outer suburbs' of reality: on the contrary we have tried to take up a position at its very hub. There alone we believe, is the fantastic to be discovered – and not a fantastic leading to escapism but rather to a deeper participation in life.

Artists who seek for the fantastic outside reality in the clouds, lack imagination. They return from their explorations with nothing more than counterfeits. As it is with rare minerals so with the fantastic; it has to be torn out from the very bowels of the Earth, from the heart of reality. True imagination is something other than a leap into the unreal. 'No other aspect of the mind *dives* as deeply as the imagination.'

The fantastic is usually thought of as a violation of natural law, as a rising up of the impossible. That is not how we conceive it. It is rather a manifestation of natural law, an effect produced by contact with reality – reality perceived directly and not through a filter of habit, prejudice, conformism.

Modern science has shown us that behind the visible there is an extremely complicated invisible. A table, a chair, a starry sky are in

fact radically different from our ideas of them: they are systems in motion, suspended energy. . . . This is what Valéry meant when he said that 'the marvellous and the actual have contracted an astonishing alliance' in the modern mind. As we hope to show in this book the alliance between the marvellous and the actual is meaningful not only in the fields of physics and mathematics but equally, for example, in anthropology, contemporary history, or sociology. That which is effective in the physical sciences should be fruitful in the humanities – but there will be difficulties of application. The humanities have become the last refuge of prejudice (as well the prejudices long since abandoned by the physical sciences). Not only that, but in this field, still so fluid, there have been attempts to reduce everything to a *system*: Freud explains all, *Das Kapital* explains all, etc. When we say 'prejudice' we are really saying 'superstition'. Just as the ancients were superstitious so are we. For some people every phenomenon of civilization finds its origin in the existence of Atlantis. For others Marxism has a complete explanation of Hitler. Some see the motive force of genius as the breath of God; others think it is sex. Our task then is to fashion this alliance between the marvellous and the actual in the individual and in social man as it already exists in biology, physics, and mathematics (which openly and quite directly refer to such concepts as an 'absolute elsewhere', the 'forbidden light', the 'quantity strangeness number').

As Teilhard de Chardin has stated, only the fantastic is likely to be true at the cosmic level. We believe that human phenomena must also be measured against the cosmic scale. The thinkers of antiquity said this. Our modern world, with its planetary rockets and its efforts to contact other intelligent beings, is saying it. So then, Bergier and I are no more than witnesses to the realities of our epoch.

A close scrutiny will show that our point of view – the extension of fantastic realism as it exists in the physical sciences to the humanities – is by no means original. Nor do we claim originality. The idea of applying mathematical method to the sciences was not a particularly shattering one but its consequences were novel and important. The idea that the Universe may not be quite what it seems is not original: but see what Einstein did with that idea!

It follows from our attitude that a book such as the present one, prepared with scrupulous honesty and a minimum of naïveté, may well spring more questions than answers. A working method is not a system of thought. We do not believe that even the most ingenious of systems could completely illuminate life in its totality, which is our subject. You can work over your Marxism as much as you wish without managing to fit into it Hitler's conviction that the Unknown Master had visited him on occasion. Manipulate the medical theories previous to Pasteur as you will: they have absolutely nothing to say about illness being caused by animal life too minute to be seen. Yet it is possible that there is an overall, final response to the questions we are posing – and that we have not yet heard it.

For Bergier and I, nothing is excluded, neither the yes nor the no. We have not discovered still one more Eastern sage; we have not become the disciples of a new Messiah; we are not expounding a doctrine. We simply propose to open the greatest possible number of doors to our readers, and as most of these doors open outward we have stood back a pace so that the reader may enter.

Let me repeat: the fantastic is not to be equated with the imaginary. But a powerful imagination working on reality will discover that the frontier between the marvellous and the actual – between the visible and the invisible Universe, if you wish – is a very fine one. There may be other Universes parallel to our own. Indeed, perhaps this book would not have been written if Bergier and I had not on more than one occasion had an impression of being in contact – actually, physically – with another world. Bergier had one such experience when he was in Mauthausen. Something similar happened to me when I was a Gurdjieff disciple. In each case the circumstances were different but the essential facts the same.

The American anthropologist, Loren Eiseley, whose attitude is somewhat similar to ours, tells a story which perfectly illustrates what I have been trying to say.

He, too, believes that the impression of being in contact with another world is not always the result of a too-fertile imagination. People have had such experiences. Not only people, animals too! For the space of a moment the frontier dissolves; it is simply a question of being there at that moment. Eiseley was actually present when such an experience befell a crow. Although the crow was, so to speak, a neighbour of his it took good care to avoid all contact with humanity, keeping to the tree-tops and the upper air, keeping to *its* world. But one unusually foggy morning our anthropologist was feeling his way to the station when suddenly, at eye level, two great, black wings preceded by a cruel beak loomed up in front of him and then swept by with a great cry of anguish. The cry haunted Eiseley for the rest of the day; he even found himself before his mirror – wondering whether indeed he could be so repulsive a sight! And then the explanation for that terrible cry dawned on him. The frontier had slipped its position because of the fog. Suddenly, before the eyes of the crow (which reasonably believed itself to be flying around at its usual height) there surged up a fact contrary to nature – a man walking on air, in the very heart of the crow's domain. A veritable manifestation of the marvellous from the crow's point of view: a flying man! Ever after, when it saw Eiseley making his normal way along the ground it would give little cries of distress, of regret for a Universe that could never be the same again.

This book is not a romance, although its intention may well be romantic. It is not science-fiction, although it cites myths on which that literary form has fed. Nor is it a collection of bizarre facts, though the Angel of the Bizarre might well find himself at home in

it. It is not a scientific contribution, a vehicle for an exotic teaching, a testament, a document, a fable. It is simply an account – at times figurative, at times factual – of a first excursion into some as yet scarcely explored realms of consciousness. In this book as in the diaries of Renaissance navigators, legend and fact, conjecture and accurate observation intermingle. Lacking the time and the means we were not able to push our exploration far inland, so all we do here is suggest hypotheses and rough out a scheme for communication between those various regions which are still for the most part forbidden territory. Later, fuller investigation may well make hay of some of our impressions, as happened to Marco Polo's narrative. We willingly face this eventuality. 'There certainly were some howlers in that book of Bergier's and Pauwels!' So be it. But if it is this book that has inspired our critics to themselves take a first-hand look, we shall have done what we set out to do.

The words of Fulcanelli might well have been ours: 'I leave to the reader of these enigmatic notes the task of comparing, of coordinating versions, of extracting verity from its allegorical setting.'

However, our documentation owes nothing to esoteric masters, hidden books or secret archives. Vast it may be but it is accessible to everyone. But, so as not to weigh down the book too much, we have avoided a multiplicity of references, footnotes and bibliographies. And sometimes we have developed our argument by way of image or allegory – but always for the purpose of more efficiently making our point and never for the sake of that mystification beloved of the esoterists and which makes one think of the Marx brothers' story:

'Say, there's a million bucks buried in the house next door.'

'There isn't a house next door.'

'No? Then let's build one.'

As I have said, this book owes much in its general theory and its documentation to Jacques Bergier. Everyone who has met him and experienced his extraordinary memory, his insatiable curiosity, his (a rare quality, this) invariable presence of mind, will at once believe me when I say that five years with Bergier have saved me perhaps twenty years of private reading. His brain includes a formidable library: selection, classification, complex cross-references take place with an electronic rapidity. Watching him thinking out a problem never failed to produce in me an excitation of my own faculties without which I would have found the conceiving and preparing of this book impossible.

We brought together an imposing collection of books, reviews, reports, and newspapers in various languages, at an office in the rue de Berri at Paris and dictated thousands of pages of notes: quotations, translations, reflections. The week-end we met at my place at Mesnil-le-Roi to continue our discussions, breaking off from time to time only to refer to some book or other. The evening I would spend in noting down our conclusions, fresh ideas that had occurred to us, fresh lines of research. For five years I was at my

desk every day at dawn (the greater part of the day being spent in bread-and-butter work). Things being what they are in this world we yet so stubbornly cleave to, the question of time becomes a question of energy. Had we had ten years before us, better working conditions, and a team of assistants, we would certainly have produced a vastly superior book. One day (should we ever have the money, got from whatever source!) we would like to set up and direct an . . . institute, perhaps, in the world, to continue the studies here initiated. I hope this book may prove of sufficient worth to help us in that aim. As G. K. Chesterton has it, if an idea does not strive to express itself in words then it is an inept idea, and if words do not result in action it is because they too are inept.

Both Jacques Bergier and I are caught up in a multitude of other activities – mine being very demanding. This despite the fact that when I was young I knew people who literally died from over-work; so, 'How do you manage it all?' I don't know; perhaps these Zen words are some sort of explanation: 'I go on foot and yet I am mounted on an ox.'

Difficulties, obligations to be met, obstructions of all kinds continually rose up on every side to the point where I almost despaired. I am not one of those geniuses who pretend a vast indifference to everything not to do with their work. My responses are large and wide; a concentration of passion, however splendid the result, strikes me as somehow being a mutilation. Agreed, if one participates in life to the full one risks being swamped. I fall back on a thought of Vincent de Paul: 'The greatest aims suffer continuing distraction. Flesh and blood insist on abandoning the mission. Listen to them not. God, once resolved, does not change his mind whatever the occasional seeming to the contrary.'

When I was a student at Juvisy (I referred to this period of my life earlier in this preface) I one day had to comment on a phrase of Vigny: 'A life that has achieved itself is a dream of adolescence realized in maturity.' At that time my dream was to serve and to deepen my father's philosophy of progress. After many retreats, side-trackings, and equivocation, this is now, finally, what I am trying to do. May my struggle bring peace to his ashes long since scattered in the thought that 'matter is no more than one of the masks worn by the Great Visage'.

Part One

THE FUTURE PERFECT

I

*Salute to the reader in a hurry - A resignation in 1875 -
Birds of ill-omen - How the nineteenth century closed the
doors - The end of science and the repression of fantasy -
Poincaré's despair - We are our own grandfathers - Youth,
Youth!*

How can an intelligent man today not feel in a hurry? 'Get up, sir; you've got important things to do!' But one has to rise earlier every day. Speed up your machines for seeing, hearing, thinking, remembering and imagining. Our best reader, the one we value the most, will have finished with us in two or three hours.

There are men I know who can read with the greatest profit one hundred pages of mathematics, philosophy, history, or archaeology in twenty minutes. Actors learn how to 'place' their voice. Who will teach us to 'place' our attention? At a certain height everything changes speed. So far as this work is concerned, I'm not one of those writers who want to keep their readers with them as long as possible and lull them to sleep. I'm not interested in sleep, only in waking. Get on with it quickly; take what you want and go. There's plenty to do outside. Skip chapters if you want to; begin where you like and read in any direction; this book is a multiple-use tool, like the knives campers use. For example, if you're afraid of arriving too slowly at the heart of the subject that interests you, skip these first pages. You should understand, however, that they show how the nineteenth century had closed its doors against fantasy as a positive element in man and the world and the Universe, and how the twentieth has opened them again, although our morality, our philosophy and our sociology, which ought to be contemporary with the future, are nothing of the kind and remain attached to the out-of-date nineteenth century. The bridge between the era of muskets and that of rockets hasn't yet been built; but it's being thought about. And the object of this book is to make people think about it harder. If we're in a hurry, it's not because we're crying over the past but are worried about the present, and getting impatient. There you have it. You know enough now to be able, if necessary, to skim through this introduction and push on further.

His name is not recorded in the history books - unfortunately. He was a Director of the American Patent Office and it was he who first sounded the alarm. In 1875 he sent in his resignation to the Secretary of the Board of Trade. What's the good of going on, is the gist of what he said; there's nothing left to invent.

Twelve years later, in 1887, the great chemist Marcellin Berthelot wrote: 'From now on there is no mystery about the Universe.' To get a coherent picture of the world science had cleared everything up: perfection by omission. Matter consisted of a certain number of elements, none of which could be turned into another. But while Berthelot in his learned work was rejecting the dreams of the alchemists, the elements, which knew nothing about this, continued to transmute themselves as a result of natural radio-activity. In 1852 the phenomenon had been described by Reichenbach, but was immediately repudiated. Scientists before 1870 had referred to a 'fourth state of matter', observed in gases. Any kind of mystery, however, had to be suppressed. Repression is the right word; some nineteenth century thinking ought to be psychoanalysed.

A German named Zeppelin, returning home after fighting with the Southerners, tried to get the industrialists interested in a dirigible balloon. . . . 'Unhappy man! Don't you know that there are three subjects which can no longer be the subject of a paper submitted to the French Academy of Science: the squaring of the circle, the tunnel under the Channel and dirigible balloons.'

Another German, Herman Gaswindt, had the idea of building flying machines heavier than air to be propelled by rockets. On his fifth blueprint the German War Minister, after consulting the technicians, wrote, with the habitual moderation of his race and office: 'How long will it be before this bird of ill-omen is finally bumped off?'

The Russians, on their side, had got rid of another bird of ill-omen. Kibaltchich who was also in favour of rocket-propelled flying machines: a firing-squad saw to that. It is true that Kibaltchich had used his technical skill to fabricate the bomb that had just cut up into little pieces the Emperor Alexander II. But it wasn't necessary to execute Professor Langley, of the Smithsonian Institute, who had imagined flying machines propelled by the recently invented internal combustion engine. It was enough for him to be dishonoured, ruined and expelled from the Smithsonian. Professor Simon Newcomb proved mathematically the impossibility of a heavier-than-air machine. A few months before the death of Langley, who died of grief, a little English boy came back from school one day in tears. He had shown his companions the photograph of a design that Langley had just sent to his father. He declared that men would one day be able to fly. His comrades had laughed at him. And the schoolmaster had asked him how his father could be such a fool. The name of this 'fool' was H. G. Wells.

And so all the doors were closing with a bang. There was, in fact, nothing left to do but to resign, and M. Brunetière in 1895 was able calmly to speak of the 'bankruptcy of science'. The celebrated Professor Lippmann told one of his pupils, about the same time, that physics was a subject that had been exhausted and was finished and done with, and that he would do better to turn his attention in other directions. This pupil's name was Helbronner who later was to become the greatest authority in Europe on physical chemistry

and make remarkable discoveries relating to liquid air, ultra-violet rays and colloidal metals. Moissan, a chemist of genius, was forced to recant and declare in public that he had not manufactured diamonds, but had made a mistake during an experiment. It was useless to seek any further: the great discoveries of the century were the steam-engine and the gas lamp, and no greater human inventions were possible. Electricity? A mere technical curiosity. A mad Englishman, Maxwell, had pretended that invisible light rays could be produced by means of electricity: this couldn't be taken seriously.

A few years later Ambrose Bierce wrote in his *Devil's Dictionary*, 'No one knows what electricity is, but in any case it gives a better light than a horse-power and travels quicker than a gas jet.'

As for energy, this was something quite independent of matter and devoid of mystery. It was composed of fluids. These fluids filled everything up, could be described in equations of great formal beauty and were intellectually satisfying: they could be electric, luminous; calorific, etc. Here was a continuous and obvious progression: matter in its three states, solid, liquid and gaseous, and the various energy-fluids, more elusive even than gases. To preserve a 'scientific' image of the world it was only necessary to reject as philosophic dreams the theories about the atom that were beginning to take shape. Planck's and Einstein's 'grains of energy' were still a very long way off.

The German Clausius maintained that no source of energy other than fire was conceivable. And though energy may be preserved quantitatively, it deteriorates in quality. The Universe has been wound up once for all, like a watch, and will run down when the spring is worn out. No surprises are to be expected. Into this Universe, whose destiny is foreseeable, life entered by chance and developed according to the simple laws of natural selection. At the apex of this evolution came man - a mechanical and chemical compound endowed with an illusion - consciousness. Under the influence of this illusion man invented time and space: concepts of the mind. If you had told an official nineteenth century scientist that physics would one day absorb space and time and would study experimentally the curvature of space and the contraction of time, he would have summoned the police. Space and time have no real existence; they are the mathematician's variables and subjects for philosophers to discuss at their leisure. There can be no connection between man and such immensities. Despite the work of Charcot, Breuer, Hyslop, extra-sensory or extra-temporal perception is an idea to be rejected with scorn. Nothing unknown in the universe, nothing unknown in man.

It was quite useless to attempt any internal exploration; nevertheless there was one fact that defied simplification: hypnotism. People like the naïve Flammarion, the sceptical Edgar Poe and the suspect H. G. Wells were interested in this phenomenon. And yet, fantastic as this may seem, the nineteenth century proved officially that there was no such thing as hypnotism. Patients tend to tell lies

and pretend in order to please the hypnotizer. That is true. However, since Freud and Morton Price, we know that there is such a thing as a split personality. Thanks to a generally critical attitude this century succeeded in creating a negative mythology, in eliminating any trace of the unknown in man and in repressing any suggestion of mystery.

Biology, too, was finished. M. Claude Bernard had exhausted its possibilities, and the conclusion had been reached that the brain secreted thoughts as the liver secretes bile. Doubtless it would soon be possible to analyse this secretion and write out its chemical formula to fit in with the pretty patterns of hexagons for which M. Berthelot was famous. As soon as we discover how the hexagons of carbon combine to create mind the last page will have been turned. Let's get on with the job! and have all the madmen shut up. One fine day in 1898 a certain seriously-minded gentleman forbade the governess to allow his children to read Jules Verne. These false ideas would only deform their young minds. The gentleman's name was Edouard Branly. He had just decided to abandon his experiments with sound-waves as being devoid of interest, and take up the career of a general practitioner.

Scientists have to give up their throne. But they also have to get rid of the 'adventurers' - that is to say, people who think and dream and are endowed with imagination. Berthelot attacked the philosophers - 'fencing with their own ghosts in the solitary field of abstract logic' (a good description that, of Einstein, for example). And Claude Bernard declared that 'a man who discovers the simplest fact does a greater service than the greatest philosopher in the world'. Science can only be experimental; without it we are lost. Shut the gates; nobody will ever be the equal of the giants who invented the steam-engine.

In this organized, comprehensible and yet doomed universe the place assigned to man was that of an epiphenomenon. There could be no Utopia and no hope. Coal deposits would be exhausted in a few hundred years, and humanity would perish by cold and starvation. Men would never fly and would never travel through space. Nor would they ever explore the bottom of the sea. Strange that this ban should have been imposed on any investigation of the ocean depths! From a technical point of view there was nothing, in the nineteenth century, to prevent Professor Picard from constructing his bathyscaphe. Nothing but an extreme timidity and concern that man should 'stay in his proper place'.

Turpin, who invented melinite, was promptly jailed. The inventors of the internal combustion engine were discouraged, and an attempt was made to show that electric machines were merely forms of perpetual motion. Those were the days when the great inventors were persecuted, isolated and in revolt. Hertz wrote to the Dresden Chamber of Commerce that research into the transmission of the Hertzian waves should be discouraged, as they could not be used for any practical purpose. Napoleon III's experts proved that Gramme's dynamo could never function.

As for the first automobiles, the submarine, the dirigible balloon and electric light ('one of that fellow Edison's swindles') the learned societies were not interested. There is an immortal entry in the Minutes of the Paris Academy of Sciences recording the reception of the first phonograph: 'No sooner had the machine emitted a few words than the Permanent Secretary threw himself upon the impostor (presenting it) seizing his throat in a grip of iron. "You see, gentlemen," he exclaimed, "what it is . . ." But, to the stupefaction of everyone present, the machine continued to utter sounds.'

Nevertheless, some great minds, profoundly discontented with the situation, were secretly preparing the most formidable revolution in human knowledge in the history of mankind. For the time being, however, every avenue was barred.

Barred in every direction - in front and in the rear. The fossils of pre-human creatures that were beginning to be discovered in large numbers were not taken seriously. Did not the great Heinrich Helmholtz prove that the Sun derived its energy from its own contractions - that is to say, from the only force, its own combustion, existing in the Universe? And did not his calculations show that the Sun had not been in existence for more than about a hundred thousand years? How, then, could there have been a long process of evolution? Moreover, it would never be possible to fix a date for the beginning of the world. In the short interval between two states of nothingness we human 'epiphenomena' must be serious. Facts, facts! - nothing but facts!

As their researches into matter and energy had met with little encouragement, the best among the inquiring minds turned to explore an *impasse* - the ether, a substance that permeates matter in all its forms and acts as a vehicle for luminous and electromagnetic waves. It is at once both infinitely solid and infinitely tenuous. Lord Rayleigh, who at the end of the nineteenth century represented official English science in all its splendour, formulated the theory of a gyroscopic ether - an ether consisting of a mass of spinning-tops turning in all directions and reacting on one another. Aldous Huxley has remarked since that 'if it is possible for a human invention to convey the idea of absolute ugliness, then Lord Rayleigh's theory has succeeded'.

Scientists everywhere were engaged in speculations on the ether on the eve of the twentieth century. Then in 1898 came a catastrophe: the Michelson-Morley experiment shattered the hypothesis of the ether. All the work of Henri Poincaré bears witness to this collapse. Poincaré, a mathematician of genius, felt crushed by the enormous weight of this nineteenth century prison, the destroyer of all fantasy. He would have discovered the theory of relativity, had he dared. But he did not dare. His books - *La Valeur de la Science*, *La Science et l'Hypothèse*, are expressions of despair and abdication. For him, a scientific hypothesis is never true and can at best be useful. Like the Spanish inn - you only find there what you bring yourself. According to Poincaré, if the Universe contracted a

million times and ourselves with it, nobody would notice anything. Such speculations are therefore useless because they have no connection with reality as we perceive it.

This argument, up to the beginning of this century, was cited as a model of profound reasoning. Until one day a practical engineer pointed out that the butcher, at any rate, would notice it, as all his joints would fall down. The weight of a leg of mutton is proportional to its volume, but the strength of a piece of string is proportional only to its length. Therefore, were the universe to contract by only a millionth of a degree, there would be no more joints hanging from the ceiling! Poor, great and dear Poincaré! It was this great thinker who wrote: 'Common sense alone is enough to tell us that the destruction of a town by a pound of metal is an evident impossibility.'

The limited nature of the physical structure of the Universe; the non-existence of atoms; restricted sources of fundamental energy; the inability of a mathematical formula to yield more than it already contains; the futility of intuition; the narrowness and absolutely mechanical nature of Man's internal world: these were the things the scientists believed in, and this attitude of mind applied to everything and created the climate which permeated every branch of knowledge in this century. A minor century? No; a great century, but narrow – a dwarf stretched out.

But suddenly the doors so carefully closed by the nineteenth century in the face of the infinite possibilities of man, of matter, of energy, of time and of space are about to burst asunder. Science and technical skills will make enormous progress, and a new assessment will be made of the very nature of knowledge.

Not merely progress, this, but a transformation. In this new state of the world, consciousness itself acquires a new status. Today, in every domain, all forms of imagination are rampant – except in those spheres where our 'historical' life goes on, stifled, unhappy and precarious, like everything that is out of date. An immense gulf separates the man of adventure from humanity, and our societies from our civilization. We are living with ideas of morality, sociology, philosophy and psychology that belong to the nineteenth century. We are our own great-great-grandfathers. As we watch rockets rising to the sky and feel the ground vibrating with a thousand new radiations, we are still smoking the pipe of Thomas Graindorge. Our literature, our philosophical discussions, our ideological conflicts, our attitude towards reality – all this is still slumbering behind the doors that have been burst open. Youth! Youth! – go forth and tell the world that everything is opened up and already the Outside has come in!

II

Bourgeois delights – A crisis for the intelligence, or the hurricane of Unrealism – Glimpses of another reality – Beyond logic and literary philosophies – The idea of an Eternal Present – Science without conscience or conscience without science? – Hope

'THE Countess had her tea at five o'clock': Valéry said something to the effect that that kind of thing could not be written by anyone who had gained an entrance to the world of ideas, a thousand times stronger, more romantic and more *real* than the world of the heart and senses. 'Anthony loved Mary who loved Paul; they were very unhappy and had lots of little nothings.' A whole literature! – to describe the palpitations of a mass of amoeba and infusoria, whereas human Thought gives rise to tragedies and gigantic dramas, transmutes human beings, alters the course of whole civilizations and enrolls in its service vast sections of the human race. As to soporific pleasure and bourgeois delights – we workers of the earth, devotees of intellectual enlightenment, are well aware of all that they contain in the way of insignificance, decadence and rotteness. . . .

At the end of the nineteenth century the 'bourgeois' theatre and novel were in their hey-day, and for a time the literary generation of 1885 paid homage to Anatole France and Paul Bourget.

Nevertheless, about the same time, a much more important and exciting drama than any in which the characters of *Divorce* or *Le Lys Rouge* were involved was being played out in the sphere of pure knowledge. The dialogue between materialism and spiritualism, science and religion, suddenly entered on a new and exciting phase.

The scientists, who had inherited the positivism of Taine and Renan, were confronted with staggering discoveries which were to demolish the strongholds of incredulity. Where hitherto only a reality that was well vouched for could be believed in, suddenly the unreal became a possibility, and things were viewed from the standpoint of a romantic intrigue, with the transformation of characters, the intrusion of traitors, conflicting passions and illusory discussions.

The principle of the conservation of energy was established as a certainty, solid as a rock. And yet here was radium, producing energy without acquiring it from any source. No one doubted that light and electricity were identical: they could only proceed in a straight line and were incapable of traversing any obstacle. And yet here were X-rays which could go through solid objects. In the discharge tubes matter seemed to disappear or be transformed into particles of energy. The transmutation of the elements was taking place in nature: radium turns into helium or lead. And so the Temple of Consecrated Beliefs is ready to collapse; Reason no longer reigns supreme! It seemed that anything was possible. The

scientists who were supposed to have the monopoly of knowledge suddenly ceased to make a distinction between physics and metaphysics – between fact and fantasy. The pillars of the Temple dissolve into clouds, and the High Priests of Descartes are dumbfounded. If the theory of the conservation of energy is false, what is there to prevent a medium from manufacturing an ectoplasm out of nothing? If magnetic waves can traverse the earth, why should thought-transmission not be possible? If all known bodies emit invisible forces, why should there not be astral bodies? If there is a fourth dimension, could this be the spirits' world?

Mme Curie, Crookes and Lodge go in for table-turning; Edison tries to construct a machine for communicating with the dead. Marconi, in 1901, thought he had intercepted messages from Mars. Simon Newcomb was not surprised when a medium materialized sea-shells fresh from the Pacific. The seekers after reality are bowled over by strong blasts of the fantastic and the un-real.

But the stalwarts, the Old Guard, endeavour to stem the flood. The Positivists, in the name of Truth and of Reality, reject everything *en bloc*: X-rays, ectoplasms, atoms, spirits of the dead, the fourth phase of matter and the idea of there being inhabitants on Mars.

And so begins a conflict between fantasy and reality – a conflict often seemingly absurd, blind and confused, but one which will soon have repercussions on all forms of thought in every sphere: literature, sociology, philosophy, morals and aesthetics. But in the physical sciences order will be re-established, not through retreat or the whittling down of claims, but thanks to fresh advances. A new conception of physics takes shape, due to the efforts of titans such as Langevin, Perrin, Einstein. A new science is born, less dogmatic than the old one. Doors are opened on to a different *kind* of reality. As in all great novels, in the end there are neither good nor bad characters, and all the heroes are right so long as the novelist's ideas are directed towards a complementary dimension where all their destinies converge and become one, and are raised, together, to a higher level.

How do we stand today? Doors have been thrown open in almost all the strongholds of science, but that of physics has lost almost all its walls to become a cathedral entirely built of glass wherein can be seen the reflections of another world, infinitely near.

Matter has been shown to be as rich, if not richer in possibilities than the spirit. The energy it contains is incalculable; its resources can only be guessed at; it can undergo an infinite number of transformations. The term 'materialist' in its nineteenth century connotation, has become meaningless; and so has the expression 'rationalist'. The logic of 'common sense' is no longer valid. In the new physics a proposition can be both true and false. A.B. no longer equals B.A. An entity can be at once continuous and discontinuous. Physics can no longer be relied on to determine what is or is not possible. One of the most astonishing signs of the breach that has

been made in the domain of physics is the introduction of what has been called the 'strangeness quantum number'. What has happened is roughly as follows. At the beginning of the nineteenth century it was believed, somewhat naively, that two, or at most three, numbers were enough to define a particle, referring respectively to its mass, its electric charge and its magnetic moment. This turned out to be very far from the truth. In order to define completely a particle, another dimension, which cannot be expressed in words, had to be allowed for, known as *spin*. It was believed at first that this 'dimension' corresponded to a period in the particle's rotation on itself, rather like the period of twenty-four hours which, in the case of the planet Earth, regulates the alternation of night and day. However, it soon became clear that the explanation could not possibly be as simple as that. The spin was simply the spin – a quantity of energy connected with the particle, envisaged mathematically as a rotation, although nothing whatever within the particle actually turns.

In spite of erudite research carried out, notably by Professor Louis de Broglie, the mystery of the spin has only been partially explained. Then suddenly the discovery was made that among the three known particles – protons, electrons and neutrons (and their mirror-reflections, the negative anti-proton, positron and anti-neutron) there were at least thirty other particles. The cosmic rays, the great accelerators, produced them in enormous quantities. But to describe these particles the three numbers used hitherto, mass, 'charge', 'magnetic moment' no longer sufficed. It was necessary to create a fourth, perhaps a fifth number, or even more. And so, quite naturally, the physicists called these new dimensions 'strangeness quantum numbers'. There is something supremely poetic about this salute to the angel of the bizarre. Like many other expressions used in modern physics – 'forbidden radiation', 'absolute elsewhere', 'strangeness quantum number', has overtones which seem to go beyond physics to rejoin the profounder regions of the human mind.

Take a sheet of paper. Pierce two holes in it, near together. Obviously, common sense tells us, an object small enough to go through these holes will go through either one or the other. By the same criterion, an electron is an object. It has a definite weight and produces a ray of light when it strikes a television screen and a shock when it hits a microphone. Here we have, then, an object small enough to go through one of our two holes. Now, the electronic microscope will tell us that the electron has gone through both holes at the same time. What? If it has gone through one, it can't have gone through the other at the same time. But indeed it *has* gone through both. It sounds crazy, but the experiment has been made. Attempts to explain it have led to the formulation of various theories, notably that of wave mechanics. But this theory is still not a complete explanation of a fact that defies reason, which can only function in terms of Yes or No, A or B. In order to understand it, the very structure of our reason will have to be changed.

Our philosophy is based on thesis and antithesis. But it looks as if, in the philosophy of the electron, thesis and antithesis are both true at the same time. Are we talking about absurdities? The electron seems to obey laws, and television, for example, is a reality. Does the electron exist, or not? What nature calls existence is not existence in our eyes. Is an electron something or nothing? The question is meaningless. And so, at the extreme limits of knowledge, our normal methods of thought and the 'literary' philosophies, born of an outdated outlook on the world, simply disappear.

The Earth is part of the Universe; Man is not only in contact with the planet he inhabits. Cosmic rays, radio-astronomy and theoretical physics reveal the contacts he has with the Cosmos as a whole. We no longer live in a closed world, as no intelligent person in tune with our times can have failed to notice. How, then, in these circumstances, is it possible for a thinking man to be still pre-occupied with problems that are not even planetary, but narrowly regional and provincial? And how can our psychology, as revealed in works of fiction, remain so enclosed and confined to the analysis of the subconscious impulses of human sensuality and sentimentality? While millions of civilized people read books and go to the cinema or the theatre to see how Françoise can be in love with René and yet, through her hatred of her father's mistress, revenge herself by becoming a Lesbian, there are scientists, making a celestial music out of mathematics, who are speculating as to whether space does not contract around a vehicle. The whole universe would then be accessible; one could visit the farthest star in the space of a lifetime. If equations like these could be verified, human thinking would be revolutionized. If mankind is no longer confined to this Earth, new questions will have to be asked with regard to the deeper aspects of Initiation and the possibility of making contact with intelligent beings from Beyond.

What, then, is our position today? As regards research into the structure of space and time, our notions of past and future are no longer valid. Where particles are concerned, time travels in the two directions simultaneously – past and future. At very high speeds, at the velocity of light, for example, where does time come in? We are in London in October 1944. A V2 rocket, travelling at 5,000 km. per hour is over the city. It is about to fall. But to what does this 'about to' apply? As regards the occupants of the house which in a moment will be destroyed and who have only their eyes and ears, the V2 is, indeed, 'about to' fall. But from the point of view of the radar operator, using waves travelling at 300,000 km. per second (a speed which makes the rocket appear to be crawling) the trajectory of the bomb is already traced. He can only watch; there is nothing he can do. Humanly speaking, nothing can now intercept the engine of death; no warning can be given. In the eyes of the operator the rocket has already crashed. At the speed of radar time is practically non-existent. The occupants of the house are 'about to die'; in the radar's eye they are already dead.

Another example: when the cosmic rays reach the Earth's surface, they are found to contain particles, the μ mesons which live on Earth only for a millionth of a second, destroying themselves by radio-activity. Now, these particles are born thirty kilometres up in the air when the atmosphere of our planet is beginning to be dense. So, by the time they have covered this distance, they have already exceeded their life span by our reckoning. But their time is not ours. Their journey was made in eternity, and they only entered time when they lost their energy on arriving at sea level. Apparatus, it is thought could be built to reproduce these conditions. In this way drawers of time, as it were, could be created in which objects enjoying only a brief span of life would be placed and preserved in the fourth dimension. This receptacle would be a hollow glass ring placed in a field of intense energy in which the particles would rotate so rapidly that for them time would practically have ceased to exist. A life-span of a millionth of a second might thus be maintained and observed for minutes, or even hours. . . .

'It must not be supposed that past time vanishes into the void; time is one and eternal, of which past, present and future are only different aspects – different "pressings", if you like – of a continuous, invariable recording of perpetual existence.'

The modern disciples of Einstein recognize nothing but an eternal present, which was also what the ancient mystics believed. If the future exists already, then precognition is a fact. The whole trend of advanced knowledge is to place the laws of physics, and biology and psychology as well, in a four-dimensional continuum – that is to say, in the eternal present. Past, present and future *are*. Perhaps it is only our consciousness that moves. For the first time, consciousness is admitted in its own right into the equations of theoretical physics. In this eternal present, matter appears as a slender thread stretched between past and future. Along this thread glides human consciousness. By what means is it able to modify the tensions of this thread so as to have an influence on events? One day we shall know, and psychology will then become a branch of physics.

And no doubt there is a place for freedom within this eternal present. 'The traveller in a boat on the Seine knows in advance what bridges he will encounter. He none the less has freedom of action and is capable of foreseeing anything that could happen *en route*.'*

Freedom to *become* in the midst of an eternity which *is*! A double vision, an admirable vision of human destiny bound up with that of the whole Universe!

If I had my life to live again I should certainly not choose to be a writer and spend my days in a backward society where adventure is kept under the bed like a dog. I should want a lion-like adventure: I would go in for theoretical physics in order to live at the very heart of true romance.

The new world of physics explicitly contradicts the philosophies

* R. P. Dubarle, in a broadcast discussion, 12 April, 1957.

of despair and non-sense. Science without conscience spells ruin for the soul. But conscience without science means ruin too.

These philosophies which were all the rage in Europe in the twentieth century were nothing but phantoms of nineteenth-century creeds dressed up in the new fashions. Real, objective knowledge in the field of technology and science, which sooner or later englobes the domain of sociology, teaches us that the history of mankind follows a definite path, accompanied by an increase in man's powers, a rise in the general level of intelligence and a compulsive force which acts on the masses transforming them into active thinkers and giving them access to a civilization where life will be as much superior to ours as ours is now to that of the animals. The literary philosophers had been telling us that man is incapable of understanding the world. André Maurois, in *Les Nouveaux Discours du Docteur O'Grady*, for example, wrote as follows: 'Yet you will admit, Doctor, that nineteenth-century man believed that science would one day be able to explain the universe. Renan, Berthelot, Taine, early in their lives, hoped that this would come about. Twentieth-century man has no such hopes. He knows that discoveries only make the mystery deeper. As to progress, we have seen how man, with all his powerful resources, has only succeeded in producing famine, terror, disorder, torture and confusion in the mind. What hope is there left? Why do you go on living, Doctor?' In point of fact, however, the problem could no longer be stated in these terms. Though the protagonists in this discussion were unaware of it, the circle was already closing round the mystery, and the 'progress' so bitterly decried, was opening the gates of heaven. We do not turn to Berthelot or Taine for enlightenment on the future of mankind, but rather to men like Teilhard de Chardin. At a recent discussion between representatives of the various scientific disciplines the following idea was put forward: one day, perhaps, the ultimate secrets of the elementary particles will be revealed to us by what takes place deep down in the brain, for it is here that the most complex reactions in our region of the universe are finally registered, and the brain, no doubt, contains in itself the laws which govern the profoundest mysteries of this region. The world is not absurd, and the mind is surely not incapable of understanding it. On the contrary; it may well be that the human mind *has already understood the world*, but doesn't know that - yet.

IX

THE POINT BEYOND INFINITY

From Surrealism to Fantastic Realism - The Supreme Point - Beware of images - The madness of Georg Cantor - The Yogi and the mathematician - A fundamental aspiration of the human spirit - An extract from a story by Jorge Luis Borges

IN the preceding chapters I have tried to give some idea of possible ways of studying the reality of *another* state of consciousness. In that other state, if it exists, every man who is tormented by the demon of a desire for knowledge would perhaps find an answer to the following question, which never fails to arise:

'Is there not a place to be found in myself where everything that *happens to me* would be immediately comprehensible; a place where everything that I see, know or feel could be instantly deciphered, whether it be the movement of the stars, the way in which the petals of a flower are arranged, developments in the civilization to which I belong, or the most secret movements of my heart?

'Is it not possible that this immense and mad desire to understand which pursues me, as if in spite of myself, through all the vicissitudes of my life might not one day be completely and once for all assuaged? Is there not in Man, in myself, a path which leads to a knowledge of all the laws by which the world is governed? Do I not possess, deep down within myself, the key to total knowledge?'

André Breton, in the second Surrealist Manifesto, believed that he could return a definite answer to this question: 'There is every reason to believe that there is a certain point within the mind from which life and death, the real and the imaginary, the past and the future, the communicable and the incommunicable, the high and the low are no longer perceived contradictorily.'

It goes without saying that I do not, in my turn, claim to return a positive answer. In place of the methods and apparatus of surrealism, Bergier and I have aimed at substituting the more modest methods and heavier apparatus of what we call 'fantastic realism'. I therefore propose, in my study of these questions to have recourse to several different levels of knowledge: esoteric tradition; *avant-garde* mathematics; unusual trends in modern literature. Our method, in fact, consists in carrying out a survey on different levels (those of the spirit of magic, of pure intelligence and poetic intuition), establishing a connection between these three, verifying by comparison the truths belonging to each, and finally putting forward a hypothesis in which these truths will be integrated. This fat book of ours is nothing but a first attempt to justify and illustrate this method.

The quotation from André Breton above dates from 1930. It achieved an extraordinary notoriety; and is still often quoted and commented on. For the fact is that one of the chief characteristics of the contemporary spirit is the growing interest now being taken in what might be termed: the point beyond infinity.

This concept is to be found in the most ancient traditions as well as in the most advanced mathematics. It haunted the poetic inspiration of Paul Valéry, and one of our greatest living writers, the Argentinian Jorge Luis Borges, has made it the theme of his finest and most astonishing short story, entitled, significantly, *Aleph*.*

This is the name of the first letter of the alphabet in sacred language. In the Cabbala it indicates the *En-Soph*, the centre of total knowledge, the point from where the spirit, or mind, perceives in a flash the totality of all phenomena, their causes and their significance. This letter is said, in a great many texts, to be in the form of a Man who is pointing to Heaven and Earth so as to show that the world below is the mirror and map of the world above. The point beyond Infinity is the supreme point mentioned in the second Surrealist Manifesto, the 'Point Omega' of Father Teilhard de Chardin and the fulfilment of the alchemists' 'Great Work'.

* Published in *Les Temps Modernes*, June 1957, translated from the Spanish by Paul Benichou. An extract from it will be given at the end of this chapter.

How can this concept be clearly defined? Let us make an attempt. There exists in the Universe a point, a privileged spot from where the Universe as a whole is revealed. We observe creation with instruments, telescopes, microscopes, etc. But if an observer could be in this privileged spot everything that is or has ever been would appear to him in a flash, and space and time would be revealed in the totality and ultimate significance of all their aspects.

In order to give his sixth-form pupils some idea of the concept of eternity, a Jesuit teacher in a celebrated college employed the following image: 'Imagine that the Earth is made of bronze and that a swallow brushes it with its wing once every thousand years. When the Earth has been demolished in this way, only then will eternity begin. . . .' But eternity is not only an infinite length of time. It is something other than mere duration.

Images are not to be trusted. They help to transpose down to a lower level of consciousness an idea which could only survive at another altitude. They deliver a corpse to the cellar. The only images capable of conveying a lofty idea are those which create in one's consciousness a state of surprise and insecurity calculated to raise this consciousness to the level of the idea in question, where it can be grasped in all its freshness and strength. Magic rites and genuine poetry serve no other purpose.

For this reason we shall not try to provide an 'image' of this concept of the point beyond Infinity. We prefer to refer the reader to Borges' magic and poetical text.

Borges, in his story, has drawn on Cabbalistic and Alchemist sources and on Muslim legends. Other legends, as old as humanity, evoke this Supreme Point, this Privileged Spot. But it is a characteristic of the times in which we live that the efforts of pure intelligence, engaged in research of a completely non-mystical and non-metaphysical nature, have led to mathematical conceptions which enable us to rationalize and understand the idea of the 'transfinite'.

The most important and remarkable achievements in this field were made by a mathematician of genius, Georg Cantor, who died mad. His work is still discussed by mathematicians, some of whom maintain that Cantor's ideas are logically indefensible. To which the partisans of the 'Transfinite' theory reply: 'No one shall drive us out of the Paradise opened up by Cantor!'

Cantor's thought could be roughly expressed as follows: Let us imagine on this piece of paper two points A and B one cm. apart.

Now draw a segment joining A to B. How many points are there on this segment? Cantor demonstrates that there is more than an infinite number of points. To fill the segment completely would require a number of points greater than Infinity: the number *Aleph*.

This number Aleph is equal to all its parts. If we divide the segment into ten equal parts, there will be as many points in one of these parts as on the whole segment. If we make a square on the

base of this segment, there will be as many points on the segment as on the surface of the square. If we make a cube, there will be as many points on the segment as in the whole volume of the cube.

If we build from the cube a four-dimensional solid, a tesseract, there will be as many points on the segment as in the four-dimensional volume of the tesseract. And so on and so on, to Infinity.

In this mathematical conception of the 'Transfinite', involving a study of the 'Alephs', the part is equal to the whole. From the point of view of classical reasoning this is completely mad; and yet it is demonstrable. Equally demonstrable is the fact that an Aleph multiplied by any number will always be an Aleph. Thus there is something in common between contemporary higher mathematics and the Emerald Table of Hermes Trismegistus ('that which is above is like that which is below'), or the intuition of poets like William Blake ('the Universe in a grain of sand').

There is only one way of going beyond Aleph, and that is to raise it to a power of Aleph (we know that A to the power of B means A multiplied by A B times; similarly, Aleph to the power of Aleph equals another Aleph).

If we call the first Aleph zero, the second is Aleph one, the third Aleph two, etc. Aleph zero, we said, is the number of points contained on a *segment de droite* or in a volume. It has been demonstrated that Aleph one is the number of all the possible rational curves in space.

As for Aleph two, already it corresponds to a number which would be greater than anything one could conceive in the Universe. There are not enough objects in the whole Universe which, if counted, would amount to an Aleph two. And the Alephs extend to Infinity. The human mind, then, is capable of reaching beyond the confines of the Universe and of forming concepts which the Universe could never fulfil. This is a traditional attribute of God; but no one had ever imagined that the human mind could encroach upon this attribute. It was probably the contemplation of the Alephs in excess of two that drove Cantor mad.

Modern mathematicians, of stronger fibre or, perhaps, less inclined to succumb to metaphysical delirium, handle concepts of this nature, and even deduce certain applications arising therefrom.

Some of these applications are a challenge to reason and common sense - for example, the famous paradox of Banach and Tarski.*

According to this paradoxical theory, it is possible to take a sphere of normal dimensions, such as an apple, for example, or a tennis ball, and to cut it up into slices and then to reassemble the slices so as to produce a sphere smaller than an atom or bigger than the Sun.

It is not possible to perform physically this experiment, because the cutting has to be done with special surfaces which have no tangent plane and is thus technically impracticable. Most specialists,

* Two contemporary Polish mathematicians. Banach was murdered by the Nazis at Auschwitz; Tarski is still alive and is now translating into French his monumental treatise on mathematical logic.

however, believe that this inconceivable operation is theoretically sound, in the sense that, although these surfaces do not belong to the tangible Universe, the calculations relating to them are valid and effective in the Universe of nuclear physics. The neutrons in an atomic pile move in curves which have no tangent.

The work of Banach and Tarski has led to conclusions which resemble to an hallucinating degree the powers claimed by Hindu experts in the *Samadhi* technique: they declare that they are able to grow as big as the Milky Way, or to shrink to the dimensions of the smallest conceivable particle. Nearer to us, Shakespeare causes Hamlet to exclaim: 'O God! I could be bounded in a nutshell, and count myself a king of infinite space. . . .'

It is impossible, in our opinion, not to be struck by the resemblance between these distant echoes of magical thought and modern mathematical logic. An anthropologist taking part in a seminar on parapsychology at Royaumont in 1956 declared: 'The *siddhis* of the Hindu Yogis are extraordinary, since they include the faculty of being able to make oneself as small as an atom, or as big as the Sun or the whole Universe! Among these fantastic claims, we encounter positive facts which we have every reason to believe are true, and facts like these which seem to us incredible and beyond the bounds of any sort of logic.' But we can only suppose that this anthropologist was ignorant not only of Hamlet's cry, but of the unexpected forms assumed recently by the purest and most modern branch of logic: mathematical logic.

In what precisely lies the profound significance of these resemblances? As always in this book, we shall confine ourselves to formulating hypotheses. The most romantic and exciting, but the least 'integrating' hypothesis would be to admit that the *Samadhi* techniques are real, that the initiate can in fact make himself as small as an atom and as big as a sun, and that these techniques are derived from knowledge handed down from ancient civilizations which had mastered the mathematics of the 'Transfinite'. In our opinion, we are dealing here with one of the fundamental aspirations of the human mind which finds expression in the Yogis' *Samadhi* as well as in the advanced mathematics of Banach and Tarski.

If the revolutionary mathematicians are right, if the paradoxes of the 'Transfinite' are valid, then the most extraordinary perspectives are opened up for the human mind. It is conceivable that there exist in space Aleph points, like the one described in Borges' story. In these points the whole space-time continuum is represented, and the spectacle ranges from the interior of an atomic nucleus to the remotest Galaxy.

One may go still further: one can imagine that as a result of manipulations involving at the same time matter, energy and mind, any point in space whatsoever can become a 'Transfinite' point. If such a hypothesis corresponds to a mathematical-psycho-physical reality we have the explanation of the Alchemists' 'Great Work', and of the supreme ecstasy met with in certain religions. The idea of a 'Transfinite' point from which the whole Universe would

become perceptible, is prodigiously abstract. But the basic equations of the theory of relativity are equally abstract – and yet they have produced the sound movie, television and the atomic bomb.

Moreover, the human mind is incessantly progressing towards higher and higher levels of abstraction. Paul Langevin has already pointed out that the electrician's apprentice is perfectly at home with the highly abstract and delicate notion of the 'potential', and even has a word for it in his slang: he speaks of 'the juice'.

It is again possible to imagine that, in the more or less distant future, the human mind, having mastered the mathematics of the 'Transfinite', will succeed, with the aid of certain instruments in constructing, in 'Aleph' space, 'Transfinite' points from which it will be able to perceive the infinitely small and the infinitely great in their totality and ultimate significance.

Thus, the traditional quest for the 'Absolute' will have at last been crowned with success. It is tempting to dream that the experiment has already partially succeeded. We mentioned in an earlier chapter in this book the alchemistic experiment in which the operator oxidizes the surface of a molten bath of metal. When the film of oxide dispersed, it was said that an image of our Galaxy with its two satellites, Magellan's clouds, appeared against an opaque background. Legend or fact? In any case, this is an example of the earliest 'Transfinite Instrument' making contact with the Universe by means other than those provided by normal instruments.

It was perhaps through an operation of this sort that the Mayas, who did not know the telescope, discovered Uranus and Neptune. But we must not let our imagination run away with us. Let us be content to take note of this fundamental aspiration of the mind, so neglected in classical psychology, and at the same time to observe the connection between ancient traditions and one of the most important trends in modern mathematics.

Now follows the extract from the story by Borges: *The Aleph*.

"When I reached the house in the Rue Garay the maid asked me if I would mind waiting. Monsieur, as usual, was in the cellar developing his photographs. Near a vase empty of flowers on the unused piano stood smiling (more untemporal than anachronistic) the large portrait of Beatriz with its clumsy colouring. No one could see us, and impelled by an impulse of tender despair I went up to it and murmured: "Beatriz, Beatriz Elena, Beatriz Elena Viterbo, Beatriz darling, Beatriz lost forever, it is I, I, Borges."

"Carlos entered a moment later. He spoke abruptly: I understood that he was incapable of thinking of anything except the loss of the Aleph.

"A small glass of pseudo-cognac," he ordered; "then down you go to the cellar. You know that the dorsal decubitus is indispensable. So are darkness, immobility and a certain visual accommodation. You are to lie on the ground, on the tiles, and gaze fixedly at the nineteenth step of the stairway I shall show you. Then I shall go

away, shut the trap-door, and you'll be alone. Perhaps you'll be scared by some rodent – easily done! In a few minutes you will see the Aleph. The microcosmos of the alchemists and Cabbalists, our concrete and proverbial friend, the *multum in parvo!*"

"When we were in the dining-room he added: "It's understood that if you don't see it, your incapacity will not invalidate my experience. . . . Now go down; very soon you'll be able to start a conversation with *all* the images of Beatriz."

"I went downstairs quickly. The cellar, scarcely wider than the stairway, was very like a well. I looked in vain for the trunk which Carlos Argentino had mentioned. A few cases with bottles and some coarse sacking were piled up in one corner. Carlos took a sack, folded it and placed it in a particular position.

"It's not much of a pillow," he explained; "but if I raise it an inch higher you won't see anything at all, and you'll be ashamed and embarrassed. Spread your great carcass on the ground and count nineteen steps."

"I complied with his ridiculous demands, and at last he went away. He carefully closed the trap-door; the darkness, in spite of a chink which I noticed later, seemed complete. Suddenly I realized the danger I was in; I had allowed myself to be buried by a madman, after having absorbed some poison. All Carlos's blustering failed to conceal his terror lest the miracle should not be revealed to me; Carlos, to justify his delusions and so as not to know that he was mad, was *bound* to kill me. I felt a vague *malaise* which I tried to put down to my stiffness, and not to the effect of a narcotic. I closed my eyes, then opened them. It was then that I saw the Aleph.

"I come now to the ineffable climax of my story; and this is where my despair as a writer begins. All language is an alphabet of symbols, whose use presupposes an experience which is shared by both parties; but how can I convey to others the infinite Aleph of which my timid memory has hardly any recollection? The mystics, in cases like this, abound in symbols; to indicate a divinity, a Persian speaks of a bird which, in some way, is all birds; Alanus de Insulis, of a sphere whose centre is everywhere and the circumference nowhere; Ezekiel, of an angel with four faces facing simultaneously North, South, East and West. (I have a reason for recalling these inconceivable analogies, as they have something in common with the Aleph.) Perhaps the gods would allow me to use an image of this kind; but then this story would be tainted with literature and falseness. In any case, the central problem is insoluble; it is impossible to enumerate, even partially, an infinite number of things. In that gigantic instant, I saw millions of actions, both delectable and atrocious; but none of them astonished so much as the fact that they all occupied the same point, without being either superimposed or transparent. What my eyes saw was simultaneous: my transcription of it will be successive, because language has to be. I want, however, to give some account of it.

"At the bottom of the step, to the right, I saw a little mottled sphere almost intolerably bright. At first I thought it was revolving

round itself; afterwards I realized that this movement was an illusion due to the vertiginous spectacle it enclosed. The diameter of the Aleph must have been about two or three inches, but the whole of cosmic space was inside it, unreduced. Everything (the glass in the mirror, for example) was a multiplicity of things, because I could see it clearly from every point in the Universe. I saw the populous sea; I saw the dawn and the evening; I saw the multitudes swarming in America; I saw a silver spider-web in the centre of a black pyramid; I saw a broken labyrinth (it was London); I saw interminable eyes gazing one upon the other inside me as palpable as if seen in a mirror; I saw all the mirrors on the planet, and not one reflected my image; I saw in a backyard in the Rue Soler the same paving-stones that I had seen thirty years ago in a house at Fray Bentos; I saw clusters of grapes, snow, tobacco, veins of metal, steam; I saw convex deserts under the Equator and each of their grains of sand; I saw at Inverness a woman whom I shall not forget; I saw her dishevelled hair and haughty carriage; I saw a cancer of the breast; I saw a ring of dried earth on a pavement where there had been a tree; I saw in a country house at Adroque a copy of the first English translation of Pliny by Philemon Holland; I saw every letter on every page at the same time (as a child I had always wondered why when a book was closed, the letters did not get mixed up and lost during the night); I saw the night and day together; I saw a sunset at Queretaro which seemed to reflect the colour of a Bengal light; I saw my bedroom with no one in it; I saw in a room at Alkmaar a terrestrial globe between two mirrors which multiplied it to Infinity; I saw horses with shaggy manes on a beach by the Caspian Sea; I saw the delicate bone-structure of a hand; I saw the survivors of a battle sending off post-cards; I saw in a shop-window at Mirzapur a pack of Spanish playing-cards; I saw the sloping shadows of ferns on the floor of a greenhouse; I saw tigers, pistons, bisons, heaving seas and armies; I saw all the ants on the Earth; I saw a Persian astrolabe; I saw in a drawer (and the handwriting made me tremble) obscene letters – precise, unbelievable – that Beatriz had addressed to Carlos Argentino; I saw an adored monument in the cemetery at Chacarita; I saw the ghastly remains of what had deliciously been Beatriz Viterbo; I saw the circulation of my dark blood; I saw the connection between love and the transformations of death; I saw the Aleph from every point; I saw the Earth in the Aleph and in the Earth again the Aleph, and in the Aleph the Earth; I saw my face and my entrails; I saw your face, and I was giddy and I wept, because my eyes had seen that secret and conjectural object whose name men utter improperly, but which no man has ever seen: the inconceivable Universe.

‘I felt an infinite reverence, and an infinite sorrow. . . . “You must be feeling a bit dazed after poking your nose into what is no concern of yours,” said a jovial and detested voice. “Even if you empty your whole brain you’ll never in a hundred years be able to repay me for that revelation. What a terrific observatory, eh? Borges!”

‘Carlos Argentino was standing at the top of the staircase. In the sudden half-light I managed to raise myself and stammer: “Terrific – Yes, indeed. . . .”

‘The note of indifference in my voice surprised me. Carlos went on anxiously: “You saw absolutely everything – in colour?”

‘In that moment I planned my revenge. Nervously and evasively, with a show of friendliness, I thanked Carlos Argentino Daneri for the hospitality of his cellar, and urged him to take advantage of the demolition of his house to leave the pernicious capital which never forgives anyone! I quietly but firmly refused to discuss the Aleph; I embraced him on leaving, and reminded him again that the country and tranquility were the best doctors.

‘In the street, in the stairways of Constitucion and in the metro all the faces seemed familiar. I was afraid that there was nothing left in the world that could surprise me, and that all my life I should be haunted by the feeling that I had seen everything before. Fortunately, after a few sleepless nights, I had forgotten everything.’